AMENDMENTS TO THE SPECIFICATION

Please amend paragraph 0001 as follows:

[0001] The present application claims priority to and is related to U.S. Provisional Patent Application No. 60/207,156, Confirmation No. 7007[____], (Attorney Docket No. 36994-167671, formerly FE-00496) filed May, 25, 2000 entitled "Supportability Evaluation of System Architecture" to Johannesen et al., of common assignee to the present invention, the contents of which are incorporated herein by reference in their entirety.

Please amend the following paragraphs 67-68 and add a paragraph after paragraph 0068 as follows:

[0067] FIG. 6B depicts an exemplary embodiment a GUI of an exemplary implementation embodiment of a supportability evaluation of system architectures decision support system with a selected modular attribute and depicting sub-attributes of the modular attribute and nested additional sub-attributes of the sub-attributes according to the present invention; ~~and~~

[0068] FIG. 6C depicts an exemplary embodiment a GUI of an exemplary implementation embodiment of a supportability evaluation of system architectures decision support system with a selected reliability, maintainability and testability (RMT) attribute and depicting sub-attributes of the RMT attribute and nested additional sub-attributes of the sub-attributes according to the present invention; and

FIG. 6D illustrates an exemplary embodiment of the tool's capability to make pair-wise comparisons based on customer (subjective) priorities for a specific domain.

Please amend paragraph 165 as follows:

[0165] FIG. 2B depicts an exemplary embodiment of a chart 218 graphing actual life cycle costs incurred by a system or program 222 on a vertical access over an entire design development, integration and maintenance of the systems engineering process life cycle. The life cycle is shown running from phase 202-208. FIG. 2B also graphs commitment to system architecture and configuration, life-cycle cost and design to affordability (DTA), and resource requirements 220 over the systems engineering life cycle.

Please amend paragraphs 173-175 as follows:

[000173] FIG. 2C depicts an exemplary embodiment of a more detailed example of a systems engineering process 224 of FIGs. 2A and 2B. For example, FIG. 2C could represent a more detailed version of phases 202 and/or 204. The detailed systems engineering process 224 begins with a system specification 226 and can proceed through a system level design process 228, then on to a subsystem level design process 230, and then on to a software 232 and hardware 234 system design process, yielding a software high level design 236 and hardware high level design 238. If used as a preliminary design, a similar process can be performed.

[000174] FIG. 3 depicts a block diagram 300 illustrating an exemplary embodiment of a modular layered system architecture according to the present invention. A layered system architecture provides advantages of physical and functional modularity which are both useful supportability features. FIG. 3 includes platform architecture 302, which drives as system and sub-system architecture 304. FIG. 3 further illustrates how a modular layered system design architecture can include adoption of an application interface standards and conventions 306 -based solution providing further supportability features. The next layer is the application software layer representing the application software that runs on infrastructure 310. Infrastructure 310 is shown including at a base hardware level displays, system processors (SPs), databases (DBs), input output (I/O) subsystems, communications (Comms) subsystems, and any of various other subsystems 332. Above the hardware infrastructure can include any of various operating system (OS) layers 316 and firmware also referred to as device drivers 322 which can allow OS application functions to control, access and interface to hardware infrastructure 324-334. Other OS-like functions that can interface the infrastructural firmware can include, e.g., X/Motif 314 -- a standards-based display interface, a Dx 318 subsystem, and a database (DB) 320 storage subsystem application. Additionally, application services also referred to as middleware 312 can be provided to interface from the application software layer 308 and the various OS-like applications 314-320.

[000175] FIG. 4 depicts an exemplary embodiment of a hierarchy 400 of a goal and exemplary multiple levels of attributes and sub-attributes according to the present invention.

Please amend paragraphs 178-181 as follows:

[000178] AHP consists of three phases: (a) synthesis of the relevant parameter hierarchy, (b) its analysis, and (c) evaluation. In designing the hierarchy, level I (i.e., top level; also called the Focus) of the hierarchy represents the overall objective 402 of the decision, followed by subsequent levels consisting of attributes 404-408 and sub-attributes 410-420 (see FIG. 4). The attributes of each level must be of same magnitude since they are compared with one another at the next higher level. For example, Reliability, Maintainability, and Supportability are subsets of Availability, therefore, they cannot be on the same level as Availability, but can be on the next lower level. Figure 4 shows the typical form of the hierarchy of AHP. The number of levels used in the hierarchy must be chosen to effectively represent the overall objective. In addition, each attribute should be limited to between 5 and 9 sub-attributes to remain effective; enough to describe the level in adequate detail, but without excessive complexity. The design of hierarchies can be an iterative process and must be done with care.

[000179] FIG. 5 depicts an exemplary embodiment of a design 500 for supportability and upgradeability analytical hierarchy according to the present invention.

[000180] Hierarchy design is unique to each individual designer. Thus, AHP requires experience and knowledge of the problem area. A group of people may design the hierarchy by reaching consensus. Figure 5 illustrates an example of a hierarchy design for a sample decision problem in which the objective 502 of the decision is to determine which commercial off-the-shelf (COTS) alternative is to be procured for a project.

[000181] The analysis phase of AHP begins with pair-wise comparisons. The attributes, e.g. 504-510, and sub-attributes, e.g. 512-518, in each level of the hierarchy are compared with one another in relative terms as to their importance/contribution to the criterion that occupies the level immediately above the attributes being compared. For example, a decision maker responds to a question that compares two attributes *a* and *b* in terms of importance or preference: "With respect to [overall objective], how much more important/preferred is [attribute *a*] than [attribute *b*]."

Please amend the first paragraph beginning on page 49, line 3 as follows:

When all sub-attributes have been compared pair-wise, the alternatives 422-426 must be compared pair-wise with respect to the sub-attributes. For example, with respect to Acquisition Cost, Alternative A must be compared with Alternative B, and so on. The unique feature of these sets of pair-wise comparisons is that the alternatives may be compared using subjective ~~judgements~~judgments (as previously done with the 1 to 9 scale) or compared using performance data (when available). For example, as shown in Table 5, the Acquisition Cost (dollars) or the Internal Compliance (number or percentage of requirements satisfied) may be available or estimable. In this case, it is desirable to perform the pair-wise comparisons using the performance data since it is objective. However, the performance data must have a linear relationship for this method to work, i.e., $100 is twice as good (or bad) as $50.

Please amend paragraphs 187, 189, 191-192 as follows:

[000187] FIG. 6A depicts an exemplary embodiment of a GUI 600 showing a high level attribute hierarchy. Figure 6A shows the four top-level attributes; Modularity, Commonality, Standards Based and RMT (Reliability, Maintainability and Testability) and their sub-attributes. Depending on the objective and scope of the evaluation, the attributes and metrics can be weighted subjectively. The default values are assigned by dividing the total by the number of attributes at the same level, for example illustrated with 0.25 across the four main attributes in FIG. 6A.

[000189] FIG. 6B depicts an exemplary embodiment of a GUI 638 representing SEA – Modularity Sub-Attributes.

[000191] FIG. 6C depicts an exemplary embodiment a GUI 640 of an exemplary implementation embodiment of a supportability evaluation of system architectures decision support system with a selected reliability, maintainability and testability (RMT) attribute and depicting sub-attributes of the RMT attribute and nested additional sub-attributes of the sub-attributes according to the present invention.

[000192] FIG. 6D illustrates the tool's capability to make pair-wise comparisons based on customer (subjective) priorities for the specific domain in question. This was discussed in Appendix A. The exemplary GUI 642 illustrates the particular case where modularity is said to be 5

times more important than commonality. The ability to make pair-wise comparisons and assign priorities is applicable at all levels in the hierarchy – for attributes as well as metrics.